

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-2. (Canceled)

3. (Currently amended) The battery safety monitor system of Claim ~~4~~ 31, wherein said display device is ~~selected from the group consisting of~~ at least one of a visual alarms, audible alarms, relay switches and serial interfaces coupled to a display computers.

4-9. (Canceled)

10. (Currently amended) The battery safety monitor system of Claim ~~9~~ 26, wherein said serial interface comprises a UART.

11. (Currently amended) The battery safety monitor system of Claim ~~9~~ 27, wherein said connector comprises long wires.

12. (Currently amended) The battery safety monitor system of Claim ~~8~~ 24, wherein ~~said at least one battery monitor further comprises a~~ the wetness detector ~~is~~ is ~~operatively coupled to said~~ is ~~an~~ is A/D converter, and wherein said wetness detector is capable of detecting a dangerous battery conditions.

13. (Canceled)

14. (Withdrawn) A method for a battery safety monitor system, the method comprising the steps of:

- a) measuring string voltage using said battery safety monitor system;
- b) determining whether string voltage dropped a predetermined amount since last measurement;
- c) displaying an alert if string voltage dropped said predetermined amount and proceeding to STEP (h);
- d) determining whether string voltage is below a safe threshold;
- e) displaying an alert if string voltage is below said safe threshold and proceeding to STEP (h);
- f) determining whether wetness is detected;
- g) displaying an alert if wetness is detected and proceeding to STEP (h);
- h) displaying a status of at least one battery; and
- i) returning to STEP (a).

15. (Currently amended) The battery safety monitor system of claim ~~1~~22 wherein said at least one battery is lithium based.

16. (Currently amended) The battery safety monitor system of claim ~~12~~ 24, wherein said wetness detector comprises two narrowly spaced conductors that are operatively coupled to a high impedance voltage and an input of ~~said an~~ A/D converter, wherein said wetness detector is configured to produce a reduced voltage when thionyl chloride condenses on said two narrowly spaced conductors.

17-21. (Canceled)

22. (New) A battery safety monitor, comprising:
at least one battery comprising at least one cell string and providing at least one output signal;
a Zener diode coupled to the at least one output signal of the at least one battery and capable of reducing a received voltage therefrom;
a detector operatively coupled to an output of the Zener diode to determine a non-normal condition;
a microcontroller operatively coupled to the output of the Zener diode and to the at least one output signal of the at least one battery; and
an isolator coupled to an output of the microcontroller and providing an isolated signal to an external monitoring device.
23. (New) The battery safety monitor of claim 22, wherein the isolator is an optoisolator.
24. (New) The battery safety monitor of claim 22, wherein the detector is a wetness detector.
25. (New) The battery safety monitor of claim 22, wherein the output of the Zener diode is an analog-to-digital (A/D) converter.
26. (New) The battery safety monitor of claim 22, wherein the output of the microcontroller is a serial interface.
27. (New) The battery safety monitor of claim 22, further comprising a connector series-coupled to the isolated signal.
28. (New) The battery safety monitor of claim 22, wherein the at least one cell string, further comprises at least one of a positive thermal coefficient (PTC) device, a thermal fuse, a fuse, and a string isolation device.

29. (New) The battery safety monitor of claim 28, wherein the string isolation device is a diode.
30. (New) The battery safety monitor of claim 28, wherein the thermal fuse is series-coupled between the PTC and the at least one cell string, and the fuse is series-coupled between the at least one cell string and the string isolation device.
31. (New) The battery safety monitor of claim 22, further comprising:
a digital multiplexer operatively coupled to the isolated signal;
a secondary microcontroller operatively coupled to the digital multiplexer;
a display device operatively coupled to the secondary microcontroller, providing a status of the at least one battery; and
an independent power supply providing power to the secondary microcontroller and the display device.